

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-9, 49-54, 62-65, and 72 are now pending in this application. Claims 62-65 have been withdrawn from consideration.

Response to Amendment

Applicants' amendment to the drawings and specification were not entered. For at least the following reasons, this is respectfully traversed.

The Office asserts that "new Fig. 23 does not exhibit a 'W-W shaped profile' as presently understood, because a 'W' has pointed edges, whereas Fig. 23 appears to show two profiles substantially in the shape of a W, albeit with rounded edges." (*See* Pages 2-3 of Office Action). Applicants respectfully disagree.

Section 2144.03 of the M.P.E.P. states, "It is never appropriate to rely solely on 'common knowledge' in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based." The Office provides no evidentiary support for the definition, "a W has pointed edges." In fact, the Office acknowledges that the two profiles are "substantially in the shape of a W." The letter "W" does not necessarily have pointed edges. In fact, a "W" in a different font may exhibit rounded edges. (*See* "W" in *Wikipedia* at <http://en.wikipedia.org/wiki/W>). There is a reason why we call it "double-u" as opposed to "double-v." Moreover, Applicants' specification does not require or suggest that the W's in the W-W profile have pointed edges. (*See* Paragraph [0054]). For at least these reasons, Applicants respectfully request that the amendment to the drawings and specification be entered.

Drawing Objection

The drawings are objected to for not showing the features recited in the claims. In particular, the drawings are objected to for not showing “a W-W shaped profile,” as recited in claim 51. For at least the reasons discussed above, reconsideration and withdrawal of this objection is respectfully requested.

Rejections under 35 U.S.C. § 112

Claims 1-9, 49-54 and 72 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

The Office states that claims 1, 2, 49, and 52 are indefinite because of the limitation, “the grooved portion which forms the W-shaped profile is formed by a *single piece*.” (Page 4) (Emphasis added). Amendments to independent claims 1, 2, 49, and 52 render this rejection moot.

The Office states that there is insufficient antecedent basis for claim 2’s recitation of the limitation “rotor ring” in line 8. Applicants respectfully disagree. The earlier recitation, “wherein the rotor includes a radially extending hub driven by the input shaft and an annular rotor ring connected to the hub,” in claim 2 provides the antecedent basis.

The Office states that claim 51 is indefinite because “the Examiner is not sure what a W-W shaped profile would look like.” (Page 4). Figure 23 illustrates the W-W shaped profile described in claim 51.

Claims 1-9, 49-54 and 72 are rejected under 35 U.S.C. § 112, first paragraph. The Office states that the specification “does not reasonably provide enablement for a grooved portion formed by a single piece” (Page 5). Amendments to independent claims 1, 2, 49, and 52 render this rejection moot.

Claims 3-9 and 72 depend from claim 2 and are allowable for at least the reasons that claim 2 is allowable, in addition to their respective recitations. Claims 50 and 51 depend from claim 49 and are allowable for at least the reasons that claim 49 is allowable, in addition

to their respective recitations. Claims 53 and 54 depend from claim 52 and are allowable for at least the reasons that claim 52 is allowable, in addition to their respective recitations. Reconsideration and withdrawal of the 35 U.S.C. § 112 rejections are respectfully requested.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 4-6, 49-52, 54, and 72 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by newly-cited U.S. Patent No. 2,921,658 to Forster (hereafter “Forster”). For at least the following reasons, this rejection is respectfully traversed.

Forster fails to disclose a rotor surface of a viscous fluid clutch including “a first portion[,] a second portion[,] and a grooved portion disposed between the first and second portions[,] wherein the first portion, the second portion, and the groove portion are formed by *a single piece*,” as described in amended claim 1. (Emphasis added). Forster also fails to disclose a rotor surface of a viscous fluid clutch “wherein the grooved portion forms a *W-shaped profile*,” as described in claim 1. (Emphasis added).

On Page 6 of the Office Action, the Office states that Forster discloses that “springs 33 are formed by a single piece and are in the shape of multiple cursive W’s.” Applicants respectfully disagree. Forster discloses that “[a] spring is coordinated to the rings 13a and 13b and tends to urge the same apart to thereby resiliently disengage the rings 13a and 13b from the disk 16. Preferably, this spring is constituted by an annular corrugated sheet metal diaphragm 33 inserted in opposed circumferential recesses of the rings 13a and 13b and having a sealed contact therewith.” (Col. 4, lines 27-33). As seen in Figure 2 of Forster and the Figures included in the Office Action, the objects that the Office labels first portion and second portion are not made of the same material as the springs 33. This is evidenced by the different cross-hatchings used for the spring and the alleged first and second portions. Thus, the first portion, second portion, and springs are not formed from a single piece. In fact, the springs seem to be attached to the first and second portions by a connecting device. In addition, Forster’s springs 33 do not form a W-shaped profile. A “W” is characterized by one peak in between two valleys. In contrast, a spring is a coil. Although a spring may appear to look like a “W” in a two-dimensional drawing, in reality a spring is not W-shaped.

Forster also fails to disclose a rotor ring of a magnetorheological fluid clutch including “a first portion, a second portion, and a portion of reduced thickness disposed between the first and second portions to prevent a shunt in the magnetic field[,] wherein the first portion, the second portion, and the portion of reduced thickness are formed by *a single piece*,” as described in amended claim 2. (Emphasis added). Forster also fails to disclose a rotor of a magnetorheological fluid clutch, “wherein the rotor includes a grooved portion which forms a *W-shaped profile* at the portion of reduced thickness,” as described in claim 2. (Emphasis added).

On Page 7 of the Office Action, the Office states that “the rotor includes a grooved portion (springs 33) which forms a W-shaped profile at the portion of reduced thickness, wherein the grooved portion which forms the W-shaped profile is formed by a single piece.” For at least the reasons similar and/or analogous to the reasons discussed above for claim 1, Applicants respectfully disagree.

Forster fails to disclose a rotor surface of a fluid clutch “including a first portion, a second portion, and a roll formed portion disposed between the first and second portions, . . . wherein the first portion, the second portion, and the roll formed portion are formed by *a single piece*,” as described in amended claim 49. (Emphasis added). Forster also fails to disclose a rotor surface of a fluid clutch, “wherein the roll formed portion includes a grooved portion which forms a *W-shaped profile*,” as described in claim 49. (Emphasis added). For at least the reasons similar and/or analogous to the reasons discussed above for claims 1 and 2, Applicants traverse this rejection.

Forster fails to disclose a rotor ring of a magnetorheological fluid clutch including “a first portion, a second portion, and a thinned center portion disposed between the first and second portions to prevent a shunt in the magnetic field[,] wherein the first portion, the second portion, and the thinned center portion are formed by *a single piece*,” as described in amended claim 52. (Emphasis added). Forster also fails to disclose a rotor ring of a magnetorheological fluid clutch “wherein the rotor includes a grooved portion which forms a *W-shaped profile* at the thinned center portion,” as described in claim 52. (Emphasis added).

On Page 7 of the Office Action, the Office states that “the rotor includes a grooved portion (springs 33) which forms a W-shaped profile at the portion of reduced thickness, wherein the grooved portion which forms the W-shaped profile is formed by a single piece.” For at least the reasons similar and/or analogous to the reasons discussed above for claim 1, Applicants respectfully disagree.

As discussed in Paragraph [0054] of Applicants’ specification, providing a grooved portion in a rotor advantageously minimizes or prevents shunting of a magnetic field along the rotor and minimizes a path for magnetic flux. Further, the grooves formed in the rotor can be configured to be readily manufactured. Applicants further note that the grooved portion in Applicants’ specification is not a spring.

Claims 3-9 and 72 depend from claim 2 and are allowable for at least the reasons that claim 2 is allowable, in addition to their respective recitations. Claims 50 and 51 depend from claim 49 and are allowable for at least the reasons that claim 49 is allowable, in addition to their respective recitations. Claims 53 and 54 depend from claim 52 and are allowable for at least the reasons that claim 52 is allowable, in addition to their respective recitations. Reconsideration and withdrawal of the 35 U.S.C. § 102 rejections are respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 3, 7, 8, and 53 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Forster. For at least the reasons similar and/or analogous to the reasons mentioned above, this rejection is respectfully traversed.

Claims 1-9 and 49-54 and 72 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Moser in view of Forster. This rejection is respectfully traversed.

Moser fails to cure the deficiencies of Forster. Moser discloses a viscous clutch assembly that includes a rotor assembly 14 that in turn includes a hub 36 and a rotor 38. (*See* Col. 2, lines 49-50 and Figure 1). Moser discloses that coil rings 84 of the clutch assembly define a gap 94 which is filled with epoxy and rotor 38 includes a second gap 96. (*See* Col. 3, lines 38-42 and Figure 1). The device of Moser does not disclose or suggest a rotor that

includes a first portion, second portion, and grooved portion formed from a single piece, wherein the grooved portion forms a W-shaped profile.

Consequently, claims 1-9, 49-54 and 72 are allowable over Forster or Moser in view of Forster because both combinations do not disclose or suggest all of the features of the independent claims. Favorable reconsideration and withdrawal of the 35 U.S.C. § 103 rejections are respectfully requested.

Conclusion

Applicants submit that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

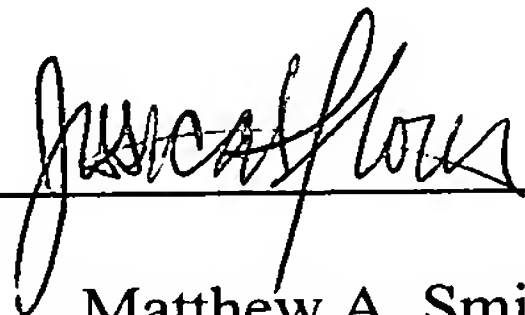
The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extension fees to Deposit Account No. 19-0741.

Respectfully submitted,

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